

ABSTRACT OF THE DISCLOSURE

A semiconductor laser element has the following configuration: a dual-wavelength monolithic laser where semiconductor lasers with emission wavelengths of 650 nm and 780 nm-are integrated on one chip is soldered on a heat sink which then is soldered on a can package. Two beam emission points of the semiconductor laser element are positioned so that beam spots, formed on an optical disk, of light beams emitted from the two semiconductor lasers are aligned substantially along a pit-row direction in the optical disk. Thus, an optical head device and an optical recording and reproducing apparatus can be obtained that can record information on or reproduce recorded information from optical information recording media with different optical characteristics and recording densities from one another and that do not cause instability in tracking servo operation.

01 05 08 11 14 17 20 23 26 29 32 35 38 41 44 47 50 53 56 59 62 65 68 71 74 77 80 83 86 89 92 95 98 101 104 107 110 113 116 119 122 125 128 131 134 137 140 143 146 149 152 155 158 161 164 167 170 173 176 179 182 185 188 191 194 197 200 203 206 209 212 215 218 221 224 227 230 233 236 239 242 245 248 251 254 257 260 263 266 269 272 275 278 281 284 287 290 293 296 299 302 305 308 311 314 317 320 323 326 329 332 335 338 341 344 347 350 353 356 359 362 365 368 371 374 377 380 383 386 389 392 395 398 401 404 407 410 413 416 419 422 425 428 431 434 437 440 443 446 449 452 455 458 461 464 467 470 473 476 479 482 485 488 491 494 497 500 503 506 509 512 515 518 521 524 527 530 533 536 539 542 545 548 551 554 557 560 563 566 569 572 575 578 581 584 587 590 593 596 599 602 605 608 611 614 617 620 623 626 629 632 635 638 641 644 647 650 653 656 659 662 665 668 671 674 677 680 683 686 689 692 695 698 701 704 707 710 713 716 719 722 725 728 731 734 737 740 743 746 749 752 755 758 761 764 767 770 773 776 779 782 785 788 791 794 797 800 803 806 809 812 815 818 821 824 827 830 833 836 839 842 845 848 851 854 857 860 863 866 869 872 875 878 881 884 887 890 893 896 899 902 905 908 911 914 917 920 923 926 929 932 935 938 941 944 947 950 953 956 959 962 965 968 971 974 977 980 983 986 989 992 995 998 1001 1004 1007 1010 1013 1016 1019 1022 1025 1028 1031 1034 1037 1040 1043 1046 1049 1052 1055 1058 1061 1064 1067 1070 1073 1076 1079 1082 1085 1088 1091 1094 1097 1100 1103 1106 1109 1112 1115 1118 1121 1124 1127 1130 1133 1136 1139 1142 1145 1148 1151 1154 1157 1160 1163 1166 1169 1172 1175 1178 1181 1184 1187 1190 1193 1196 1199 1202 1205 1208 1211 1214 1217 1220 1223 1226 1229 1232 1235 1238 1241 1244 1247 1250 1253 1256 1259 1262 1265 1268 1271 1274 1277 1280 1283 1286 1289 1292 1295 1298 1301 1304 1307 1310 1313 1316 1319 1322 1325 1328 1331 1334 1337 1340 1343 1346 1349 1352 1355 1358 1361 1364 1367 1370 1373 1376 1379 1382 1385 1388 1391 1394 1397 1400 1403 1406 1409 1412 1415 1418 1421 1424 1427 1430 1433 1436 1439 1442 1445 1448 1451 1454 1457 1460 1463 1466 1469 1472 1475 1478 1481 1484 1487 1490 1493 1496 1499 1502 1505 1508 1511 1514 1517 1520 1523 1526 1529 1532 1535 1538 1541 1544 1547 1550 1553 1556 1559 1562 1565 1568 1571 1574 1577 1580 1583 1586 1589 1592 1595 1598 1601 1604 1607 1610 1613 1616 1619 1622 1625 1628 1631 1634 1637 1640 1643 1646 1649 1652 1655 1658 1661 1664 1667 1670 1673 1676 1679 1682 1685 1688 1691 1694 1697 1700 1703 1706 1709 1712 1715 1718 1721 1724 1727 1730 1733 1736 1739 1742 1745 1748 1751 1754 1757 1760 1763 1766 1769 1772 1775 1778 1781 1784 1787 1790 1793 1796 1799 1802 1805 1808 1811 1814 1817 1820 1823 1826 1829 1832 1835 1838 1841 1844 1847 1850 1853 1856 1859 1862 1865 1868 1871 1874 1877 1880 1883 1886 1889 1892 1895 1898 1901 1904 1907 1910 1913 1916 1919 1922 1925 1928 1931 1934 1937 1940 1943 1946 1949 1952 1955 1958 1961 1964 1967 1970 1973 1976 1979 1982 1985 1988 1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036 2039 2042 2045 2048 2051 2054 2057 2060 2063 2066 2069 2072 2075 2078 2081 2084 2087 2090 2093 2096 2099 2102 2105 2108 2111 2114 2117 2120 2123 2126 2129 2132 2135 2138 2141 2144 2147 2150 2153 2156 2159 2162 2165 2168 2171 2174 2177 2180 2183 2186 2189 2192 2195 2198 2201 2204 2207 2210 2213 2216 2219 2222 2225 2228 2231 2234 2237 2240 2243 2246 2249 2252 2255 2258 2261 2264 2267 2270 2273 2276 2279 2282 2285 2288 2291 2294 2297 2300 2303 2306 2309 2312 2315 2318 2321 2324 2327 2330 2333 2336 2339 2342 2345 2348 2351 2354 2357 2360 2363 2366 2369 2372 2375 2378 2381 2384 2387 2390 2393 2396 2399 2402 2405 2408 2411 2414 2417 2420 2423 2426 2429 2432 2435 2438 2441 2444 2447 2450 2453 2456 2459 2462 2465 2468 2471 2474 2477 2480 2483 2486 2489 2492 2495 2498 2501 2504 2507 2510 2513 2516 2519 2522 2525 2528 2531 2534 2537 2540 2543 2546 2549 2552 2555 2558 2561 2564 2567 2570 2573 2576 2579 2582 2585 2588 2591 2594 2597 2600 2603 2606 2609 2612 2615 2618 2621 2624 2627 2630 2633 2636 2639 2642 2645 2648 2651 2654 2657 2660 2663 2666 2669 2672 2675